

# Attention and Sociability in Preschoolers With and Without Developmental Disabilities

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## BACKGROUND

- Early childhood years are critical time for intellectual development, specifically for learning pre-academic and social skills
- Socialization & attention are essential for learning in a preschool classroom—
  - Children learn through their social interactions
  - Attention is necessary for engagement, ability to learn, and classroom stability<sup>1</sup>
- Children with developmental disabilities (**DD**) often have social and/or attention deficits that may hinder their ability to learn and develop at the same pace as their typically developing (**TD**) peers<sup>2</sup>
- No previous research investigates how structure of classroom activities influences sociability and attention of children with vs. without developmental disabilities

## PURPOSE OF PILOT STUDY

Explore whether TD preschoolers vs. preschoolers with DD have more attention and sociability in structured vs. unstructured activities

## METHODS

- OSU Nisonger Center’s Early Childhood Education daycare and summer program
- Participants: Preschoolers ages 2-6 years

	Attention		Sociability	
Group	DD	TD	DD	TD
Total # Subjects	5	5	4	5
Avg age (months)	44	30	45	30
% male	60%	40%	75%	40%

- Developed behavioral coding schemes for **attention** (on-task v. off-task behavior) and **sociability** (no social interaction v. social interaction with teacher, peer, or both)
- 15-second partial interval coding
- Collected data on preschooler’s attention and sociability during...

Structured activities Vs. Unstructured activities



- ≥240 intervals (~2 hours) of data collected per participant  
(except one participant because absent last week of data collection)

- 2<sup>nd</sup> rater coded 13% of observations
- Cohen’s Kappa Statistic used to assess agreement between raters’ observations using behavioral coding scheme

		Kappa Statistic	Interpretation
Attention	On-Task	0.81	Strong agreement
	No Social Interaction	0.85	Strong agreement
	Adult Social Interaction	0.74	Moderate agreement
	Peer Social Interaction	0.82	Strong agreement

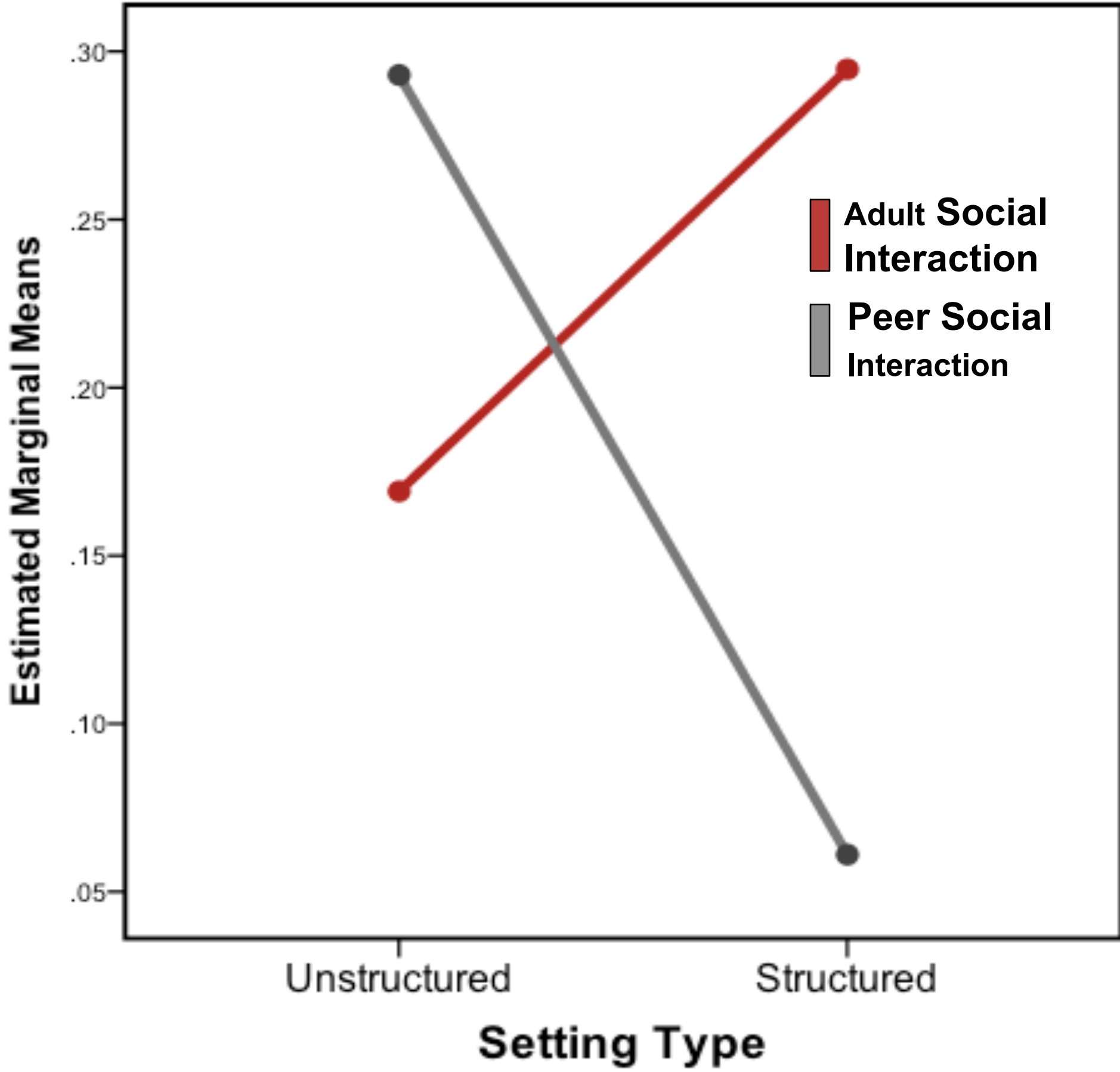
## RESULTS: ANOVA

Regardless of group (i.e. for both DD & TD subjects), there’s a statistically significant interaction between the type of social interaction (adult v. peer) and the structure type (unstructured v. structured)

Interaction	F	Sig.	Partial Eta Squared (effect size)
Social Interaction Type by Setting Type	7.825	.027	.528



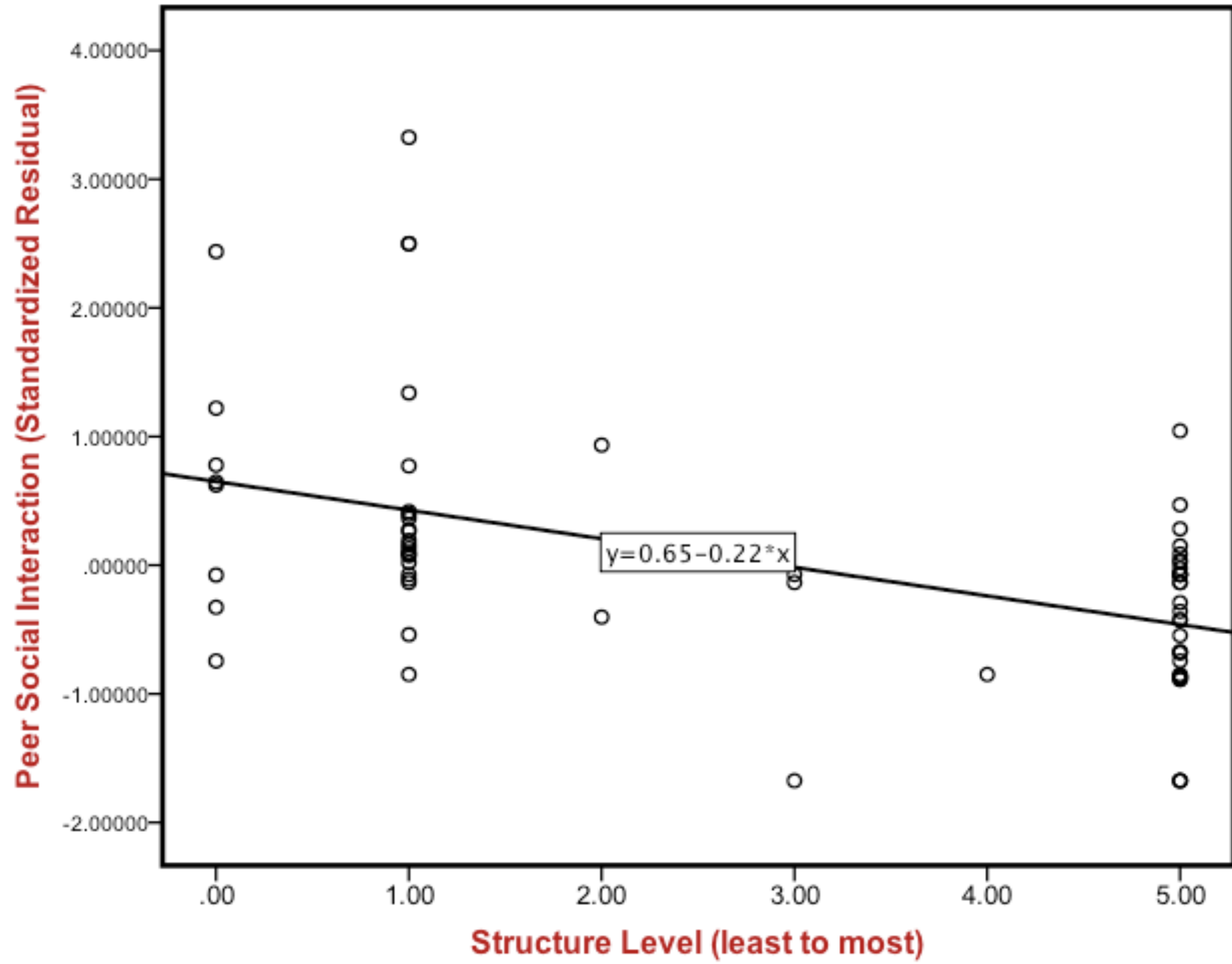
### Social Interaction Type by Setting Type



## RESULTS:

### PEER SOCIAL INTERACTION REGRESSION

Peer Social Interaction explained by Activity Structure Level (controlling for Group and Child ID)



Significant relationship between activity’s level of structure and amount of peer social interaction. On average, as the level of structure increases, the amount of peer social interaction decreases

Activity Structure Level: 0 (least structure) → 5 (most structure), defined by # of applicable conditions:

Structure Conditions
Designated activity area
Direct Instruction
Set seating
Specific set materials
Goal-directed

Independent Variables	Total Variance Explained	Variance Explained by variable	df	Sig. F Change
Group (whether child DD v. TD)	0.2%	0.2%	1, 66	.701
Activity Structure Level (Unstructured → Structured)	25.2%	25.0%	5, 61	.003
Child ID (each individual participant)	42.0%	16.8%	7, 54	.045

Dependent Variable = Peer Social Interaction

Activity Structure Level	Beta	t-statistic (df = 61)	Significance
0 compared to levels 1-5	-.270	-1.915	.060
1 compared to levels 2-5	-.334	-1.989	.051
2 compared to levels 3-5	-.278	-1.947	.056
3 compared to levels 4-5	.027	.163	.871
4 compared to level 5	.100	.407	.685

## DISCUSSION

**Statistically significant interaction between social interaction type and structure type**

- Large effect size (.528)
- Whether more peer or adult social interactions occurred depended on if activity was structured or unstructured
- Unstructured settings → more peer social interactions
- Structured settings → more adult social interactions

**42% of the overall variance in Peer Social Interaction is explained by the variables: Group, Structure, Child ID**

- Group—explained non-significant proportion of variance
- Activity Structure Level—explained significant proportion of the variance (25.0%). Amount of structure has direct effect on amount of peer social interactions.
- Child ID (each individual child)—explained significant proportion of the variance (16.8%)

**Inverse trend between Peer Social Interaction and Activity Structure Level**

- Beta weights non-significant, yet overall trend shows ↑ Activity Structure associated with ↓ Peer Social Interactions

## IMPLICATIONS

- Findings suggest structured preschool classroom activities may prevent opportunities for peer social interaction
- Early childhood peer socialization is crucial for development of social skills and ability to make friends
- Forming and maintaining friendships associated with better school adjustment later on<sup>3</sup>
- Decreased exposure to peer socialization may put children at a developmental disadvantage
- Future research should explore this finding in a new context with a larger sample size to test generalizability

## REFERENCES

<sup>1</sup> Strain, P. S., Danko, C. D., & Kohler, F. (1995). Activity Engagement and Social Interaction Development in Young Children with Autism: An Examination of “Free” Intervention Effects. *Journal of Emotional and Behavioral Disorders*, 3, 108-123.  
<sup>2</sup> Wong, C. & Kasari, C. (2012). Play and Joint Attention of Children with Autism in the Preschool Special Education Classroom. *Journal of Autism and Developmental Disorders*, 42, 2152-2161.  
<sup>3</sup> Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children’s early school adjustment? *Child Development*, 61, 1081-1100.

## ACKNOWLEDGMENTS

We would like to thank the children who participated in this study as well as OSU’s Nisonger Center ECE staff, specifically Angie Alley for all her help throughout the project and ECE teachers for allowing us to observe during class time. Thank you Gabby Tiede for your time and assistance being our 2<sup>nd</sup> rater. Thank you OSU’s Department of Psychology and Undergraduate Research Office for the URO – Psychology Summer Research Fellowship grant.